

### REMARKS/ARGUMENTS

The claims are 2-13. Claim 1 has been canceled in favor of new claim 13 to better define the invention. Accordingly, claims 2, 4, and 7-12, which previously depended on claim 1, have been amended to depend on new claim 13. These claims and claims 3, 5, and 6 have also been amended to improve their form. Reconsideration is expressly requested.

Claims 1-12 were rejected under 35 U.S.C. 103(a) as being unpatentable over *Huismann et al.* U.S. Patent No. 6,963,048 (equivalent to EP 1 384 547) taken with *Bernard et al.* U.S. Patent No. 3,339,057 for the reasons set forth on page 2 of the Office Action, which essentially repeat the rejection made in the previous Office Action dated February 1, 2007. The Examiner has also indicated that there is no structural limitation in the claims that requires the welding wire to always follow a curved course in the Examiner's view, and that the specification in claim 1 that the wire course is curved when buffering occurs is considered met by *Huismann et al.* '048 for the reasons set forth in the Office Action.

This rejection is respectfully traversed.

As set forth in new claim 13, Applicants' invention provides a welding torch having a central axis. The welding torch includes a torch body, a drive unit for conveying a welding wire at different wire-conveying speeds or for a forward/rearward wire conveyance, a hose pack, and a wire buffer storage.

The hose pack is connected at a connection region to the torch body at an angle of up to 90 degrees relative to the central axis.

The wire buffer storage is arranged immediately after the connection region within the torch body. The wire buffer storage contains an amount of welding wire and is formed from the welding wire, a wire core, or a guide hose, which follows a curved course between the connection region and the drive unit. The amount of welding wire contained in the wire buffer storage is adjustable by a change of the curved course.

In this way, Applicants' invention provides a welding torch having a simple and compact structure and exhibiting an enhanced welding wire conveyance dynamic behavior. Due to the curved course, which is caused by a change in the radius of curvature, excess welding wire will be taken up such that the excess welding

wire need no longer be conveyed back over the entire hose pack, which brings about a substantial improvement in the response behavior or dynamic behavior. Because the wire buffer storage is arranged immediately in front of the drive unit within the torch body, only very short conveying paths will have to be covered during the welding process at changes in speed or a reversal of the conveying direction.

Due to its small structural size, Applicants' welding torch is particularly suitable for robotic applications as it is unlikely to substantially restrict freedom of motion of the robot. By arranging the wire buffer storage immediately after the connection of the hose pack to the torch body and in front of the drive unit for conveying the welding wire, it is assured that the drive unit will operate in a substantially force-free manner within the welding torch. As a result, the dynamic behavior of the conveyance of the welding wire is considerably enhanced.

As recognized by the Examiner at page 2 of the Office Action, *Huismann et al.* does not call for the wire to follow a curved course to form the wire buffer storage. In Applicants' new claim 13, it is expressly stated that the wire buffer storage is "formed from a member selected from the group consisting of

the welding wire, a wire core, and a guide hose, said member following a curved course between the connection region and the drive unit", which it is respectfully submitted is nowhere disclosed or suggested in *Huismann et al.* Although *Huismann et al.* states at col. 4, lines 53-54 of the '048 patent that the "buffer may be anything that stores and returns the extra wire, or provides an increased wire path length between the source and the torch," there is no disclosure or suggestion in *Huismann et al.* of a storage buffer formed from a welding wire, a wire core, or a guide hose so that the welding wire, wire core, or guide hose follows a curved course between a connection region, which connects the hose pack to the torch body at an angle of up to 90 degrees relative to the central axis, and a drive unit for conveying a welding wire at different wire-conveying speeds or for a forward/rearward wire conveyance.

With Applicants' welding torch as recited in new claim 13, because the welding wire in the wire buffer of the welding torch runs along an arc, the welding wire can be moved within the wire buffer without relevant resistance when the movement of the welding wire is reversed. The drive unit within the welding torch will operate in a substantially force-free manner and thereby considerably enhance the dynamic behavior of the

conveyance of the welding wire. In contrast, the drive unit of the welding torch according to *Huismann et al.* must force the welding wire against the second drive unit feeding the wire with a predetermined velocity forward to the welding torch.

Therefore, with *Huismann et al.*'s device, the dynamic behavior of the conveyance of the welding wire will not be optimal, and it is not possible to change the direction and motion of the welding wire very quickly. Further, in the case of soft materials for the welding wire, the risk exists that the welding wire will fold within the wire buffer.

Contrary to the Examiner's position, it is respectfully submitted that one skilled in the art would have no reason to consult *Bernard et al.* to provide *Huismann et al.*'s device with a wire buffer storage having a curved course as *Bernard et al.* describes a welding torch with a construction behind the welding torch that enables a light compensation when the welding torch is moved along the workpiece, which cannot be compared with a wire buffer as set forth in Applicants' new claim 13. Moreover, at the time *Bernard et al.* made their welding torch, a retraction of the welding wire during welding was not done, and in fact, the welding torch according to *Bernard et al.* does not include a drive unit enabling such retraction of the welding wire.

It is respectfully submitted that in making the combination of *Huismann et al.* with *Bernard et al.*, the Examiner is engaging in impermissible hindsight in selecting different aspects from different documents to arrive at Applicants' invention.

As set forth in In re Fine, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988):

"Obviousness is tested by 'what the combined teachings of the references would have suggested to those of ordinary skill in the art'. In re Keller, 642 F.2d 418, 428, 208 U.S.P.Q. 871, 881 (C.C.P.A. 1981). But it 'cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination.' ACS Hosp. Sys., 732 F.2d at 1577, 221 U.S.P.Q. at 933. And 'teachings of references can be combined only if there is some suggestion or incentive to do so.' Id. Here, the prior art contains none."

Id. at 1599 (Court's emphasis).

Because *Bernard et al.* relates to a different technology, it is respectfully submitted that there is no reason in either of *Huismann et al.* or *Bernard et al.* to make the combination proposed by the Examiner. Accordingly, Applicants respectfully

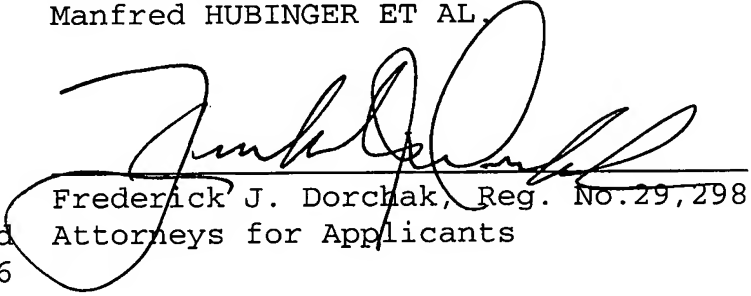
submit that the Examiner has failed to carry his burden to establish that the claimed invention would have been prima facie obvious in view of these patents.

Accordingly, it is respectfully submitted that the pending claims recite unobvious and patentable subject matter.

In summary, claim 1 has been canceled, claims 2-12 have been amended, and new claim 13 has been added. In view of the foregoing, it is respectfully requested that the claims be allowed and that this case be passed to issue.

Respectfully submitted,  
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